

MISUMENA TRICUSPIDATA (Fab.)

Aranea tricuspidata Fabricius. *Systema entomologia*, p. 433, 1775.

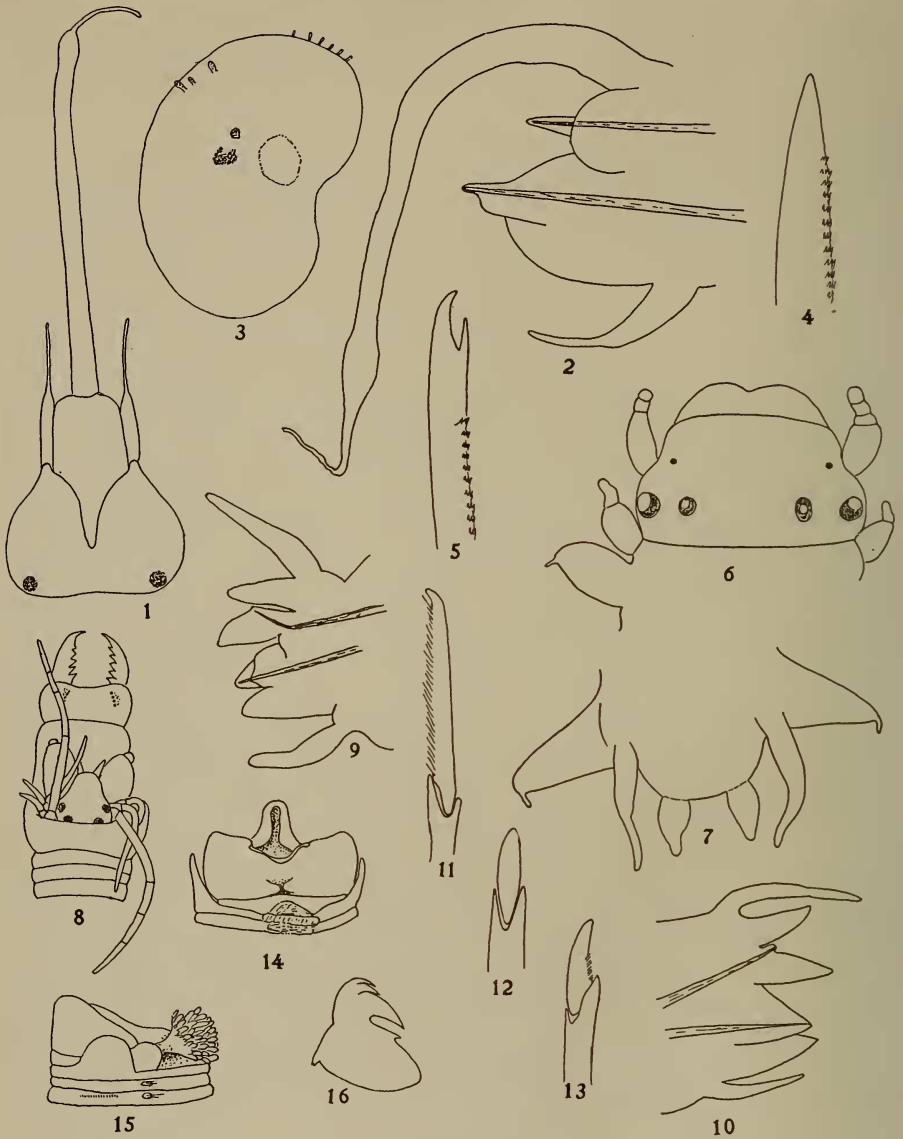
Records.—China: Szechwan Province, Suifu, 1000 ft. May 25, 1930, 2 females; October, 1930, one male; Chungking, 2000 ft., May 6, 1930, 2 females (D. C. Graham).

ZOOLOGY.—*Polychaetous annelids collected by Captain Robert A. Bartlett in Greenland, Fox Basin, and Labrador.*¹ A. L. TREADWELL, Vassar College. (Communicated by WALDO L. SCHMITT.)

This report is based on the polychaetous annelids collected by Captain Robert A. Bartlett on the east and west coasts of Greenland, Fox Basin, and the coast of Labrador. It has earlier been noted (Moore 1902) that the Greenland polychaets have been thoroughly studied by European investigators and, as was to be expected, few new species appear in the present collection. Many species of the regions visited occur on both the east and west shores of the Atlantic, as recorded in the elaborate monographs on the British Annelids by Wm. C. McIntosh. For most of the species listed below I have attempted to give only the references to the original description and to McIntosh's account. The collection comprises sixteen families, twenty-five genera, and twenty-nine species, of which four, *Harmothoe levis*, *Oophylax minuta*, *Nereis* (*Cerantonereis*) *bartletti* and *Pista groenlandica* are new to science.

Because of the presence of numerous setae in the stomach of a bearded seal, *Erignathus barbatus*, from Fox Basin a portion of the contents was submitted to me for examination. This material contained a good deal of what in land mammals we would call "hair balls," composed in this case chiefly of agglomerated setae. Of these the larger number are identical with the setae of *Eunoe nodosa* and undoubtedly belong to that species. There are also a few large black setae characteristic of the Aphroditacea, but I am uncertain of the species. Half of a *Nereis* jaw, badly corroded, was also noted in the material. I do not know that worms in the considerable quantities indicated by this sample have ever been reported as the food of marine animals before. The saved contents of the stomach of this seal totalled a full three-quarters of a gallon of similarly matted and setae-filled material, intermingled with one or two dozen gasteropod mollusk feet and operculae, several large shrimp, *Sclerocrangon boreas*, and the remains of perhaps six holothurians, *Cucumaria frondosa*, two to three inches long.

¹ Received October 16, 1936.



Figs. 1-5.—*Harmothoe levis*. 1, prostomium $\times 28$. 2, parapodium $\times 35$. 3, elytron $\times 12$. 4, seta $\times 250$. 5, seta $\times 250$.

Figs. 6-7.—*Oophylax minuta*. 6, anterior end $\times 280$. 7, posterior end $\times 280$.

Figs. 8-13.—*Nereis (Ceratoneis) bariletti*. 8, anterior end $\times 10$. 9, anterior parapodium $\times 100$. 10, median parapodium $\times 100$. 11, heterogomph neuroseta $\times 500$. 12, posterior notoseta $\times 500$. 13, posterior falcigerous neuroseta $\times 500$.

Figs. 14-16.—*Pista groenlandica*. 14, ventral view anterior end $\times 7.5$. 15, lateral view anterior end $\times 7.5$. 16, uncinus $\times 250$.

Family AMPHINOMIDAE

SPINTHER Johnston

SPINTHER CITRINUS (Stimpson).

Cryptonota citrina Stimpson 1854, p. 36.

Spinther citrinus Verrill 1873-74, p. 502.

A rare species. Stimpson's species came from Grand Manan, Verrill's from the Gulf of Maine, and the U. S. National Museum has some taken in the Bay of Fundy. The Bartlett specimen was taken at Fox Basin.

Family EUPHROSYNIDAE

EUPHROSYNE Savigny

EUPHROSYNE BOREALIS Oersted

Euphrosyne borealis Oersted 1843, p. 18, pl. 2, figs. 23-27.

A fairly common species in the region covered by the collections. It was recorded by Wesenberg-Lund (1934, p. 24) as a new record for East Greenland. In the Bartlett collection it was taken at E. end of Cobourg Id., Baffin Bay, 75°40'N., 78°50'W., Aug. 1935.

Family POLYNOIDAE

GATTYANA McIntosh

(*Nychia* Malmgren name preoc.)

GATTYANA CIRROSA (Pallas)

Aphrodita cirrosa Pallas 1766, p. 95, pl. 8, figs. 3-6 (teste McIntosh).

Nychia cirrosa Malmgren 1865, p. 58, fig. 1.

Gattyana cirrosa McIntosh 1900, pp. 285-291, pl. 25, fig. 3; pl. 27, fig. 5; pl. 31, fig. 1; pl. 37, figs. 16-19; pl. 42, fig. 27.

Collected S. of Cape Martineau, Melville Peninsula, Aug. 9, 1933; Fox Basin (N & B) 1933; E. end of Cobourg Id., Baffin Bay, 75°41'N., 78°20'W., Aug. 3, 1935; Murchison Sd., N. Greenland, Aug. 20, 1926.

EVARNELLA Chamberlin

(*Evarne* Malmgren name preoc.)

EVARNELLA IMPAR (Johnston)

Polyne impar Johnston 1839, p. 463, pl. 22, figs. 3-9 (teste McIntosh).

Evarne impar McIntosh 1900, pp. 353-358; pl. 27, fig. 13; pl. 30, fig. 7; pl. 32, fig. 18; pl. 39, figs. 20-22.

Collected E. end of Cobourg Id., Baffin Bay, 75°40'N., 78°50'W., Aug. 3 and 4, 1935; 4 mi. east of Cape Dorchester, Fox Channel, Aug. 4, 1927; 3 mi. S. from Salisbury Id., Hudson Strait (N & B)² July 25, 1933; Duckett Cove, Hurd Channel, Aug. 11, 1933; between Hurd Channel and Melville Peninsula, Aug. 7, 1933; S. of Cape Martineau, Melville Peninsula, Aug. 9, 1933; 66°30'N., 80°W., Aug. 10, 1927.

² Norcross-Bartlett Expedition, 1933.

HARMOTHOE Kinberg

HARMOTHOE IMBRICATA (Linnaeus)

Aphrodita imbricata Linnaeus 1766, p. 1084 (teste McIntosh).

Harmothoe imbricata Malmgren 1865, p. 66, pl. 9, fig. 8; McIntosh 1900, pp. 314-327, text figs. 25-30; pl. 25, fig. 6; pl. 30, fig. 1; pl. 32, fig. 10; pl. 38, figs. 14-16; pl. 26a, figs. 1, 3-8, 12.

A very widely distributed species showing a considerable degree of variability. Collected at Bight, Shannon Id., N.E. Greenland, July 29, 1930; N. Omenolu, North Star Bay, N. Greenland, July 28, 1932; Cape Alexander, Smith Sound, N. Greenland, Aug. 26, 1932; Cape York, N. Greenland, in dredge "between glacier and bill of Cape," 76° 50'N., July 21, 1926; Cape York, N. Greenland, 76° 0'N., July 21, 1926; Parker Snow Bay, N. Greenland, July 17, 1935; S. part of Fox Basin, 66° 43'N., 80° 07'W., Aug. 27, 1927; 3 mi. from Southampton Id., Hudson Strait, July 31, 1933; Sturges Bourne Strait, W. end of Hurd Channel, Melville Peninsula (N & B), Aug. 18, 1933; Duckett's Cove, Melville Peninsula, Aug. 11, 1933; N.E. end of Melville Peninsula, entrance to Fury and Hecla Straits, Aug. 5, 1933 (N & B); N.E. of Cape Dorchester, Fox Channel, Aug. 4, 1927; between Hurd Channel and Melville Peninsula, Aug. 7, 1933; E. end of Cobourg Id., Baffin Bay, 75° 40'N., 78° 50' and 45'W., Aug. 3 and 4, 1935; Cove, N. shore of Lyon Inlet, Melville Peninsula (N & B), Aug. 24 and 25, 1933; S. of Cape Martineau, Melville Peninsula, Aug. 9, 1933; 66° 30'N., 80°W., Aug. 10, 1927; Labrador, no year given; Saglek Bay, Labrador, Sept. 25, 1925; Coast of Labrador, summer 1925.

Harmothoe levis n. sp.

The type specimen is 15 mm long and, measured from the outer borders of the elytra on opposite sides, 5 mm wide. The elytra overlap on the dorsal surface and extend laterally so as to cover the basal third of the dorsal cirri. In the type the protruded pharynx is 4 mm long. Under low magnification the elytra have a smooth appearance, tinted faintly-pinkish gray, each being marked near the center (fig. 3) by a group of brown pigment granules. To the naked eye this smooth surface with the prominent pigment is the most characteristic feature of the animal. In the type the pigment is present on all elytra, smallest anteriorly and gradually increasing in size in the following ones. In others the color may be absent in the most anterior elytra.

The prostomium is characteristic of the genus in that each half terminates anteriorly in a peak beneath which, and invisible from above, are the large anterior eyes. The posterior eyes are also large and lie near the posterolateral angle of the prostomium. The cirrophore of the median tentacle is large and fills the dorso-median prostomial cleft. Its length is about equal to that of the prostomium (fig. 1). The median tentacular style is about two and one half times as long as the cirrophore, very faintly swollen near the tip, and terminates in a slender filament. The prostomium is colored like the elytra, the cirrophore of the median tentacle is a darker brown, the basal half of the style is colored like the cirrophore, beyond this there is a lighter area, then a darker one of about the same length, then the slight swelling which is colorless. At the base of the filament is a dark spot, the remainder being colorless. The lateral tentacles are scarcely longer than the cirrophore of the median and are colored like it. Their slender apical regions are about as long as the stouter basal portions. The palps are of moderate size and

taper uniformly to their apices, their general coloration being like that of the median tentacle, the apices white. The tenacular and dorsal cirri are like the median tentacle in form and color but in general are somewhat smaller. The last three pairs of dorsal cirri are very long. Anal cirri had been lost.

The protruded pharynx has dorsally ten and ventrally nine soft marginal papillae. The teeth are very sharp pointed and light-brown in color with darker margins.

The first two pairs of elytra are nearly circular in outline, the others kidney-shaped (fig. 3). The pigment patch is located postero-dorsally to the elyptrophore scar. Except for a very few clavate cilia on the posterior border, the margin is smooth. Near the outer lateral margin are a few larger stout spines and the whole surface is densely studded with minute spines not shown in the figure.

A parapodium from the middle of the body (fig. 2), has a very long dorsal cirrus, both dorsal and ventral cirri lying near the posterior parapodial border, while the notopodial lobe is a little anterior to the neuropodial. The notopodium is composed of a broadly rounded anterior and a very narrow sharp-pointed posterior lip, with a fan-shaped row of heavy setae arising between them. The acicula extends into the posterior lip. The neuropodium is considerably longer and larger than the notopodium. It has a rounded posterior lip, posterior to which the setae arise. The anterior lip is almost rectangular in outline but has a narrow dorsal prolongation into which the acicula extends.

The notopodial setae vary in size, the one at the ventral end of the series being hardly one-half as wide or one-eighth as long as the dorsalmost one. They are all (fig. 4) heavy, blunt-pointed, and have rows of toothed plates extending nearly to the ends. The neuropodial setae have long slender stalks widened toward the outer ends. Distally they gradually narrow again so that the apices are about half as wide as the narrowest portion of the stalk. Each (fig. 5) terminates in a terminal hook and a subterminal tooth. Toothed plates extend nearly to the base of the tooth.

The type, No. 20222 U.S.N.M., was taken at Angmagssalik, E. Greenland, on Aug. 31, 1931. Another specimen was secured between Capes Martineau and McLaren, at the south end of Melville Peninsula on Aug. 19, 1933, and a third at 66° 30' N., 80° W., Aug. 27, 1927.

This species is closely related to *Harmothoe imbricata* Linn.

EUNOE Malmgren

EUNOE NODOSA (Sars)

Polynoe nodosa Sars 1860, p. 59.

Eunoe nodosa Malmgren 1865, p. 64, pl. 8, fig. 4; McIntosh 1900, pp. 291-296, pl. 27, fig. 9; pl. 32, fig. 3; pl. 37, figs. 20, 22, 24, 26, 27; pl. 42, fig. 28.

Collected at Clavering Fiord, N.E. Greenland, Aug. 2, 1930; 66° 30' N., 80° W., Aug. 10, 1927; Fox Basin, Aug. 26, 1927; Center of Fox Basin, Aug. 24 and 25, 1927; S. part of Fox Basin, 66° 43' N., 80° 07' W., Aug. 12, 1927; coast of Labrador, Sept.-Oct. 1925; Fox Basin (N & B), 1933.

EUNOE OERSTEDI Malmgren

Eunoe oerstedii Malmgren 1865, pl. 8, fig. 3.

A species related to *E. nodosa* and considered by Fauvel (1914, p. 51) as synonymous with it. One important distinction in the specimens in the Bartlett collection is that *E. oerstedii* has very prominent spines on the elytra which are not found in *E. nodosa*.

Collected at Cape Alexander, Smith Sound, N. Greenland, Aug. 26, 1932; Hurd Channel between Bushman Id. and Melville Peninsula, Aug. 17, 1933; S. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 58' W., Aug. 4, 1935; 66° 36' N., 78° 58' W., Aug. 10, 1927.

Family NEPHTHYDIDAE

NEPHTHYS Cuvier

NEPHTHYS CILIATA (Müller)

Nereis ciliata Müller 1789, p. 114, pl. 89, figs. 1-4 (teste McIntosh); Malmgren 1865, p. 104, pl. 12, fig. 17; McIntosh 1908, pp. 24-27, pl. 66, fig. 9; pl. 77, figs. 6, 7.

Collected between Capes Martineau and McLaren, S. end of Melville Peninsula, Aug. 19, 1933; Duckett's Cove, Hurd Channel, Aug. 11, 1933; King Francis Joseph Fiord, N.E. Greenland, Aug. 4, 1936; North Fiord, N.E. Greenland, Aug. 2, 1936.

Family PHYLLODOCIDAE

PHYLLODOCE Savigny

PHYLLODOCE GROENLANDICA Oersted

Phyllodoce groenlandica Oersted 1842-43, p. 121 (teste McIntosh); McIntosh 1908, pp. 86-88, pl. 58, fig. 5; pl. 68, figs. 4, 5, 6; pl. 78, fig. 7.

Collected at Clavering Fiord, N.W. Greenland, July 29, 1930; Disco Id., July 17, 1935 (this specimen is badly macerated and is recorded as taken from a cod's stomach); at entrance to Straits of Fury and Hecla, Sept. 3, 1933. One bottle, marked simply "Labrador" contained a much injured specimen too badly broken for identification. It possibly is of this species.

Family SYLLIDAE

SYLLIS Savigny

SYLLIS ARMILLARIS (Müller)

Nereis armillaris Müller 1776, p. 217 (teste McIntosh).

Syllis armillaris Oersted 1842-43, p. 118 (teste McIntosh); McIntosh 1908, pp. 188-191, pl. 60, fig. 1; pl. 70, fig. 14; pl. 80 (1910), figs. 8, 8a.

Collected at 70° 04' N., 17° 58' W. (N & B); 66° 30' N., 80° W.; and at S. part of Fox Basin, 66° 43' N., 80° 07' W., Aug. 12, 1927.

POLYBOSTRICHUS Oersted

POLYBOSTRICHUS (AUTOLYTUS) LONGOSETOSUS Oersted

Polybostrichus longosetosus Oersted 1843, p. 183, pl. 5, figs. 62, 67, 71 (teste Quatrefages).

Collected at S. part of Fox Basin, 66° 43' N., 80° 10' W., Aug. 27, 1927.

OOPHYLAX Ehlers

Oophylax minuta n. sp.

The type and only specimen is very small, hardly 2 mm in length. It was found clinging to another annelid, but this association evidently was accidental. The prostomium has a width of nearly twice its length (fig. 6), and near its posterior border are four large eyes, the lateral ones being slightly the larger. The lenses of the median eyes are directed dorsally, those of the lateral ones dorso-laterally. Anterior to these on either side is a much smaller eye. The palps are short and are fused nearly to their ends, this fusion being more complete dorsally than ventrally. Focussing below the level shown in the figure shows a definite cleft between them. The tentacles are heavy, each having a swollen basal portion which abruptly narrows into a cylindrical terminal region, the latter ringed in such a way as to resemble articulations.

The first somite is rather short and has on either side a tentacular cirrus which is slightly smaller than the tentacle but is otherwise similar to it in shape. There are twenty-five pairs of parapodia, all prominent, the first one rounded in outline but later ones become gradually more sharp pointed toward the ends. In anterior somites the dorsal cirri are larger than the tentacular but similar to them in form. Beginning at about the sixth parapodium, these begin to narrow toward their bases and throughout the greater part of the body they are cylindrical and extend beyond the ends of the parapodia. There is one pair of short, thick, anal cirri (fig. 7). I was unable to see clearly the anterior ventral cirri but posterior ones are slender and cylindrical and reach about half way to the ends of the parapodia. The parapodia are conical, each having at its apex a small, colorless, posteriorly directed cirrus (see figs. 6, 7). The setae are all compound and prominent, the largest reaching beyond the parapodium to a distance equal to the length of the latter. The basal joint is slender, expanding noticeably at the heterogomph outer end. There are two kinds of terminal joints in each somite differing from one another only in length. Their ends are curved to sharp hooks. I was unable to decide whether their concave margins are merely roughened or carry excessively minute hairs. The pharynx has anteriorly a single median tooth and extends as far as the posterior border of the third stertigerous somite. The crop extends through four somites.

The unique type, No. 20223 U.S.N.M., was collected four miles east of Cape Dorchester in Fox Channel on Aug. 4, 1927.

Oophylax is diagnosed by Ehlers (1864, p. 252) as having "four paired head appendages and eyes, palps more or less fused, seta-bearing parapodium of the first somite similar to later ones." Chamberlin (1919, pp. 166, 167) stated that *Oophylax*, with some other genera, is synonymous with *Exogone*, which he defined (p. 165) as having palps completely fused and rudimentary tentacular cirri, with all tentacles and cirri cylindrical. The specimen agrees more closely with Ehlers' than with Chamberlin's diagnosis and I have therefore described it as *Oophylax*.

Family NEREIDAE

NEREIS Linnaeus

NEREIS PELAGICA Linnaeus

Nereis pelagica Linnaeus 1746, p. 2096; McIntosh 1910, pp. 267-280, pl. 52, figs. 1, 2; p. 160 (1908), figs. 6-6b; pl. 71, figs. 7-7i; pl. 80, figs. 25, 25b.

A very widely distributed species but no great number of specimens appeared in the Bartlett collections. Collected at $63^{\circ} 16' 09''$ N., $84^{\circ} 21' 15''$ W., Aug. 1, 1933; 3 mi. S. of Salisbury Id. (N & B), July 27, 1933; mouth of Bay of Gods Mercy, Southampton Id., Hudson Bay (N & B), Aug. 5, 1933; a much mutilated specimen in epitokous condition was taken at Duckett's Cove, Melville Peninsula, Aug. 13, 1933; Coast of Labrador, 1925; $74^{\circ} 04'$ N., $17^{\circ} 58'$ W. (N & B), July 30, 1931.

NEREIS ARCTICA Oersted

Heteronereis arctica Oersted 1843, p. 179. pl. 4, figs. 50, 51; pl. 5, figs. 65, 68, 69-70* (teste Quatrefages).

Collected at S.E. corner of Fox Basin, $66^{\circ} 46'$ N., $79^{\circ} 15'$ W., Aug. 13, 1927.

NEREIS (CERATONEREIS) Kinberg

Nereis (Ceratonereis) bartletti,³ n. sp.

The type and only specimen is 28 mm long and 0.75 mm wide at the prostomium. The prostomium is colorless. On the peristomium is a faint dusting of brown pigment which becomes slightly more intense in the following somites and noticeably so on the region from the sixth to the thirtieth, being densest from the fifteenth to the twentieth. Behind the thirtieth this pigmentation continues in a gradually decreasing intensity to nearly the posterior end of the body. Except where it is more intense it is limited to a transverse dorsal band in each somite as long as one half the dorsal body-diameter and leaving uncolored the intermediate regions. In more deeply pigmented somites there are lateral patches on the parapodial bases separated from the dorsal ones by a distinct colorless line.

The prostomial length is about equal to its breadth (fig. 8), rather broadly rounded on the anterior border. The tenacles are relatively rather heavy and are well separated from one another. The basal joints of the palps are heavy and extend well beyond the tentacle ends, the terminal joints being mere knobs. Two pairs of prominent eyes are situated well toward the posterior border. In the preserved specimen the posterior eyes are about one half covered by the overlapping margin of the peristomium. The posterior dorsal tentacular cirrus reaches to the anterior border of the seventh somite, the anterior dorsal to the anterior border of the fourth, the ventral ones are hardly longer than the prostomium. The dorsal ones are more slender than the ventral and show a small amount of jointing. All dorsal cirri are slender, unjointed, and not especially long. The two anal cirri are as long as the last ten body somites.

In the protruded state of the pharynx the peristomium is much wider than the prostomium. In the mid-dorsal line it is about twice as long as somite 2. The following somites increase in length and width as far as the region of the twentieth, while posterior to that they gradually decrease toward the posterior end.

The protruded pharynx (fig. 8) has large teeth, each with a terminal fang and five heavy denticulations. The paragnath formula is I, absent; II, not more than ten, in two rows, the larger lying on the inner row; III, a few obscure denticles rather widely separated; IV, on either side a roughly triangular patch whose apex extends as two rows nearly to the bases of the jaws; V, VI, VII and VIII absent.

³ In honor of the discoverer, Capt. R. A. Bartlett.

Anterior parapodia (fig. 9) have a heavy dorsal cirrus extending for about one-third its length beyond the end of the dorsal lobe. This dorsal lobe is an elongated oval in outline, its outer half only slightly narrower than its inner. The setal lobe is a small elevation on the dorsal surface of the ventral lip and the acicula ends in it. The ventral lip of the notopodium is roughly triangular in outline, its base extending beyond the end of the dorsal lobe. In the neuropodium the setal lobe has a vertical posterior and a conical anterior lip, the large acicula ending in the latter. The ventral lip is heavy and shorter than the setal lobe. A parapodium from the middle of the body (fig. 10) has much the same structure as the anterior ones, except that the lobes are more pointed. This general structure persists posteriorly, the only change being that the lobes become still more pointed.

In anterior parapodia there are few notopodial setae (three in the parapodium drawn, fig. 9), each having a very slender homogomph basal portion, the terminal joint long and slender and finely toothed along one margin. The neuropodial setae are in two tufts, one above and one below the acicula. In each tuft are two kinds of setae, one form being like those of the notopodium, the other having heterogomph basal joints, the terminal joint a flattened blade that narrows regularly from base to apex which is rounded and slightly curved. Along one margin is a row of bristles (fig. 11). On the second and third parapodia in front of the pygidium are setae not found farther forward. On the specimen examined there is in the notopodium one shown in figure 12. This has homogomph basal joint. The terminal joint is elongated-oval in outline, one end being inserted in the notch at the end of the basal. In the neuropodium are two like figure 13. The basal joint is heterogomph, the terminal short and thick, curved slightly and has a row of bristles for about half its concave margin. Both of these forms of setae are much larger than any in anterior somites and have much darker basal joints.

Type, No. 20224, U.S.N.M., was taken in a dredge at 129 fathoms at 74° 04' N., 17° 58' W., on July 30, 1931.

Family LEODICIDAE

LUMBRINEREIS Blainville

LUMBRINEREIS FRAGILIS (Müller)

Lumbricus fragilis Müller 1788, p. 22, pl. 22, figs. 1-3.

Lumbriconereis fragilis Audouin et Edwards 1833, vol. 28, p. 244; McIntosh 1910, pp. 372-376, pl. 62, figs. 1, 1a; pl. 72, figs. 8-8c; pl. 82, figs. 2-2b.

All of the specimens in the collection were badly macerated and the identification was made mostly through the structure of the jaws.

Collected in summer of 1925, coast of Labrador; Saglek Bay, Labrador, Oct. 1, 1925; Coast of Labrador, Sept.-Oct. 1925.

ONUPHIS Audouin et Edwards

ONUPHIS CONCHYLEGA Sars

Onuphis conchylega Sars 1835, p. 61, pl. 10, figs. 28 a-e; McIntosh 1910, pp. 410-413, pl. 63, fig. 9; pl. 64, figs. 1-1a; pl. 75, fig. 7; pl. 84, figs. 5-5c.

In the identification I have followed McIntosh's description. The only differences I could find are that the frontal tentacles are more prominent and the nuchal cirri longer than in his statement. There is much variation

in the coloration from practically no color at all to a dense brown dorsal pigmentation.

Collected at 74° 04' N., 17° 58' W., July 30, 1931 (N & B); 74° 21' N., 16° 30' W., July 29, 1931; E. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 50' W., Aug. 3, 1935; 75° 40' N., 78° 55' W., Aug. 3, 1935.

Family GLYCERIDAE

GLYCERA Savigny

GLYCERA LAPIDUM de Quatrefages

Glycera lapidum de Quatrefages 1865, pp. 187, 188; McIntosh 1910, pp. 477-481, pl. 55, fig. 4; pl. 64, figs. 9-9a; pl. 76, figs. 1-1b; pl. 85, figs. 3-3b.

Collected at S. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 58' W., Aug. 4, 1935.

Family OPHELIDAE

OPHELIA Savigny

OPHELIA LIMACINA Rathke

Ophelia limacina Rathke 1843, p. 190, pl. 10, figs. 4-8 (teste McIntosh); McIntosh 1915, pp. 9-14; pl. 88, fig. 1; pl. 95, figs. 1, 1d.

Collected at Hakluyt Id., Whale Sound, 77° 26' N., 72° 30' W., July 30, 1935; E. end Cobourg Id., Baffin Bay, 75° 40' N., 78° 56' W., Aug. 4, 1935; and at latter locality but at 58' W. on Aug. 4, 1935.

Family CHLORHAEMIDAE

BRADA Stimpson

BRADA GRANOSA Stimpson

Brada granosa Stimpson 1854, p. 32.

E. end Cobourg Id., Baffin Bay, 75° 40' N., 78° 50' W., Aug. 3, 1935; King Francis Joseph Fiord, N.E. Greenland, Aug. 4, 1936.

Family AMPHICTENIDAE

PECTINARIA Lamarck

PECTINARIA GRANULATA (Linnaeus)

Sabella granulata Linnaeus 1766, p. 1268.

Cistenides granulata Malmgren 1865, p. 359.

Collected at Angmagssalik, E. Greenland, Aug. 28, 1931; Parker Snow Bay, off Cape York, July 17, 1935; N. Omenolu, near North Star Bay, N. Greenland, July 28, 1932; Cape York, N. Greenland, Aug. 28, 1932; 5 mi. S. of Cape Chalon, N. Greenland, July 27, 1932; between Capes Martineau and McLaren, Aug. 19, 1933; cove N. shore Lyon Inlet, Melville Peninsula, Aug. 24 and 25, 1933; Duckett's Cove, Hurd Channel, Aug. 11 and 12, 1933; Hurd Channel, between Bushman Id. and Melville Peninsula, Aug. 17, 1933; S. of Cape Martineau, Melville Peninsula, Aug. 19, 1933; King Francis Joseph Fiord, N.E. Greenland, Aug. 4, 1936.

Family AMPHARETIDAE

AMPHARETE Malmgren

AMPHARETE GROENLANDICA Grube?

Ampharete groenlandica Grube 1860, vol. 26, pp. 106-107, pl. 5, figs. 3, 3a, 3b.

A single female with eggs. All of the tentacles have been lost and I have provisionally identified it as above.

Collected at 66° 30' N., 80° W., Aug. 27, 1927.

Family TERESELLIDAE

THELEPUS Leuckart

THELEPUS CININNATUS (Fabricius)

Amphitrite cincinnata Fabricius 1780, p. 286.

Thelepus cincinnata Malmgren 1865, p. 387, pl. 22, fig. 58.

Thelepus cincinnatus Verrill 1874, vol. 7, p. 499; McIntosh 1922, pp. 170-177, pl. 120, fig. 1; pl. 126, figs. 6-6d (var. *andreneae*).

Abundant in the collections associated with *Pista groenlandica*. The tubes differ from those of *P. groenlandica* in that *Thelepus* uses larger and a more heterogeneous collection of pebbles to cover the surface than does *Pista*.

Collected at 74° 04' N., 17° 58' W. (N & B), July 30, 1931; 74° 21' N., 16° 30' W. (N & B), July 29, 1931; North Omenolu, North Star Bay, N. Greenland, Aug. 26, 1932; 5 mi. S. from Cape Charles, N. Greenland, July 27, 1932; E. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 40' W., Aug. 3, 1935; at entrance to Strait of Fury and Hecla, Sept. 3, 1933; 3 mi. S. from Salisbury Id. (N & B), Hudson Strait, July 25, 1933; cove to windward of Cape Charles, W. side of Lyon Inlet, Melville Peninsula, Aug. 18, 1933; between Capes Martineau and McLaren, S. end of Melville Peninsula, Aug. 19, 1933; S. of Cape Martineau, Melville Peninsula, Aug. 19, 1933; 66° 30' N., 80' W., Aug. 10, 1927.

PISTA Malmgren

PISTA FLEXUOSA (Grube)

Terebella flexuosa Grube 1860, vol. 26, pp. 102-103, pl. 5, figs. 2 and 2a.

Scione flexuosa Wesenberg-Lund 1934, p. 29.

The arrangement of the gills puts this species in the genus *Pista*.

Collected at E. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 58' W., Aug. 3, 1935.

Pista groenlandica n. sp.

Common in the collection in association with the commoner *Thelepus cincinnatus* Fabricius. Their tubes may be distinguished by the fact that they are somewhat smaller than are those of the latter species and the surfaces of the tubes are covered with sand grains which are smaller and more uniform in size than is the case with *T. cincinnatus*.

The type is 70 mm long and has a prostomial width of 3 mm. So far as can be determined on preserved material the body width is fairly uniform throughout except that there is a noticeable narrowing at the posterior end.

The cephalic margin is not very pronounced and on its latero-ventral side is largely covered by a large latero-ventral lobe of the first somite. Ventrally it is separated by a notch from the high and rather narrow supraoral fold. None of the specimens had been preserved outside of the tube and it was found quite impossible to remove them from the tubes without injuring the tentacles and only a few of these remain on the type. They occur in a dense tuft and when contracted show grooving. No eyes were visible. Dorsally the first somite is very short, its two halves separated in the mid-dorsal line by a forward expansion of the second somite that carries the gills. A prominent lateral lobe is present on either side of the first somite. Ventrally the two lobes are united by a transverse bridge (fig. 14), and posterior to this each lobe sends out a rounded process, the two nearly meeting in the mid-ventral line. The second somite is very short on the mid-ventral line but widens laterally and is continued dorsally as a larger area carrying the gills. The third somite carries ventrally the first shield which extends over the second somite and is divided into two by a transverse line. Laterally the third somite carries a free lobe which extends forward nearly as far as the anterior border of the first somite (fig. 15). There is one pair of gills situated on the dorsal surface of the second somite. Each (fig. 15) has a heavy base and divides into five (in the one figured) branches which subdivide toward the ends. There is no indication of a spiral arrangement such as has been described in other species of this genus.

On the type are twelve well defined ventral shields and behind them a row of very much smaller ones that at about the twentieth somite fade away into a deep groove. A row of ten cirri, of which the two ventral ones are the largest, surround the anus.

The first seta tuft is on the fourth somite and there are sixteen pairs. The setigerous ridges increase in size from anterior to posterior ones, the later ones being prominent. The uncini begin on the fifth somite, the tori being very low as far as the setae extend and behind this they protrude considerably from the body. They continue to the posterior end of the body, the latest ones being smaller. The setae are all long and slender, very fine-pointed, and gently curved at the ends. They are bilimbate, the wings being noticeably striated. An uncinus (fig. 16) has a broadly rounded base and one large hook. At the apex there is a much smaller hook and on either side one larger than the apical one. A hook-like projection lies between the uncinal base and the largest hook. In anterior tori the uncini are in single rows but at about the tenth the rows become double with alternate uncini facing in opposite directions.

The type, No. 20225, U.S.N.M., and a paratype deposited in the American Museum of Natural History were collected at the east side of Cobourg Id., Baffin Bay, 75° 40' N., 78° 40' W., Aug. 3, 1935. Others were taken 5 miles S. of Cape Charles; at entrance to Straits of Fury and Hecla; at Duckett's Cove, Hurd Channel; at 74° 04' N., 17° 58' W.; and at 74° 21' N., 16° 30' W.

Pista cristata O. F. Müller appears in a number of lists of polychaetous annelids collected from the northeastern coast of North America and McIntosh (1922, p. 160) lists the species from Canada (Whiteaves), New England and Atlantic coast (Verrill), and Virginia (Webster). In his diagnosis of the species, McIntosh (p. 158) states that the gills arise from the anterior border of the fourth somite, but later (p. 161) he locates them on the third. In *P. groenlandica* they are on the third. Other differences are that in *P. cristata* there are three pairs of lateral lobes on the second, third, and fourth somites, respectively, while *P. groenlandica* has only one pair on

the second. The arrangement of anal papillae is quite different, as is the structure of the uncini. Verrill (1882, pl. 11, fig. 2) figures *P. cristata*, but his figure seems to correspond more closely to *P. groenlandica*, and McIntosh does not record any personal observations on any American forms, basing his descriptions solely on the European. It seems to me quite possible that the ones described from North America are *P. groenlandica*. I cannot find that the papers show anything more than a relisting of the species without any critical examination. The relationship between the two species is close.

TEREBELLIDES Sars

TEREBELLIDES STROEMI Sars

Terebellides stroemi Sars 1835, p. 48, pl. 13, fig. 31 (teste McIntosh); McIntosh 1922, pp. 209-215, pl. 127, figs. 5, 5', 5'', 5a, 5a', 5b.

A single entire specimen which agrees in all respects with the description given by McIntosh, except that it has only one pair of gills on the second somite, while McIntosh describes two pairs on somites 2 and 3. His figure, however (pl. 120, fig. 3), shows only one pair.

Collected at Cove, N. shore of Lyon Inlet, Melville Peninsula, Aug. 24, 1933.

Family SABELLIDAE

CHONE Kroyer

CHONE DUNERI Malmgren

Chone duneri Malmgren 1867, p. 116, pl. 13, fig. 75; McIntosh 1923, pp. 295-297, pl. 130, figs. 3-3c.

Distinguished from *C. infundibuliformis*, which is much commoner in this region, by the fact that in *C. duneri* the thoracic spatulate setae have long sharp points, while in *C. infundibuliformis* they have rounded ends.

Collected at E. end of Cobourg Id., Baffin Bay, 75° 40' N., 78° 40' W., Aug. 3, 1935.

Family SERPULIDAE

SPIROBIS Daudin

SPIROBIS SPIRILLUM (Lamarck)

Serpula spirillum Linnaeus 1758, p. 786.

Spirorbis spirillum Lamarck 1818, p. 359; McIntosh 1923, pp. 391-396, pl. 122, figs. 9-9b; pl. 132, figs. 6-6f.

Collected in considerable numbers on floating sea weed at mouth of Bay of Gods Mercy, Southampton Id., Hudson Bay, Aug. 5, 1933 (N & B).

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ZOOLOGY.—*Resistance to intestinal trichinosis in experimental animals induced by feeding metabolic products of encysted trichinae.*¹

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Administration of vaccines by mouth has been found to be of value in some cases in the treatment of certain diseases, and in view of this, it occurred to the writer that metabolic products elaborated by trichina larvae might be used in a similar manner to produce a resistance to intestinal infestation with this parasite. Attempted immunization by injection of trichina proteins has yielded negative results.² In order to determine, therefore, whether the ingestion of metabolic products of trichina larvae would pro-

¹ Received October 7, 1936.

² McCoy, O. R. Amer. Jour. Hyg. 21: 200. 1935.